

# Alternative Fuel School Buses



Propane



Compressed  
Natural Gas



Electricity



# The Clean Cities Mission

*Clean Cities coalitions enhance the economic, environmental, and energy security of the United States by working locally to advance affordable, domestic transportation fuels, energy efficient mobility systems, and other fuel-saving technologies and practices.*



# Clean Cities Coalitions



U.S. Department of Energy

Map Date: 04/16/19

# Most OEMs make alternative fuel versions of your preferred



# Benefits of Alternative Fuels in School Bus Fleets

- Fuel prices are lower and more stable than gas and diesel
- Lower operational costs
- Domestic fuel source
- Maintenance cost and issues can be less than diesel
  - No regen, no DPF, no DEF
- Improved air quality, especially around schools
- Better driver and passenger experience
  - Reduced engine noise
  - No diesel smell
- Resilience





# Fueling Considerations



# Fueling: Propane



Propane fueling can be built on site for little to no cost, depending on the fuel volume, through partnerships with your local propane marketer.



# Fueling: CNG

- Fueling can be built on site, or existing local stations may be utilized.
- State tax credits may be leveraged through public-private partnerships to reduce costs.



If you are considering CNG, call your gas utility to check existing available capacity at your site, and ask about incentives. You can also look for partnerships with existing local stations.



**Compressed  
Natural Gas**



# Fueling: Electricity

- Fueling should be built on site
- Each bus likely needs its own charger
- Buses charge overnight
- VW funds and tax credits may be available for charging equipment



If you are considering electric, call your local utility to check existing available capacity at your site and ask about incentives.



**Electricity**

# Improve Alternative Fuels with Renewables



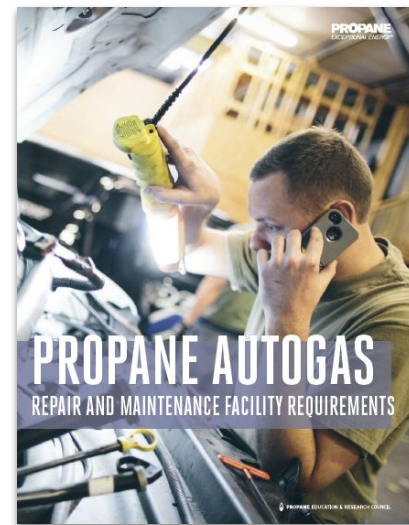
# Maintenance

Maintenance requirements are different for alternative fuels. Your staff may need additional training, or you may need to rely on your local dealership for maintenance.

Your maintenance buildings MAY need modifications to allow your technicians to safely work on alternative fuel buses.



**ALTERNATIVE FUELS**  
OKLAHOMA DEPARTMENT OF LABOR



U.S. DEPARTMENT OF  
**ENERGY** Office of ENERGY EFFICIENCY  
& RENEWABLE ENERGY

## Compressed Natural Gas Vehicle Maintenance Facility Modification Handbook



September 2017



# Clean Cities Resources



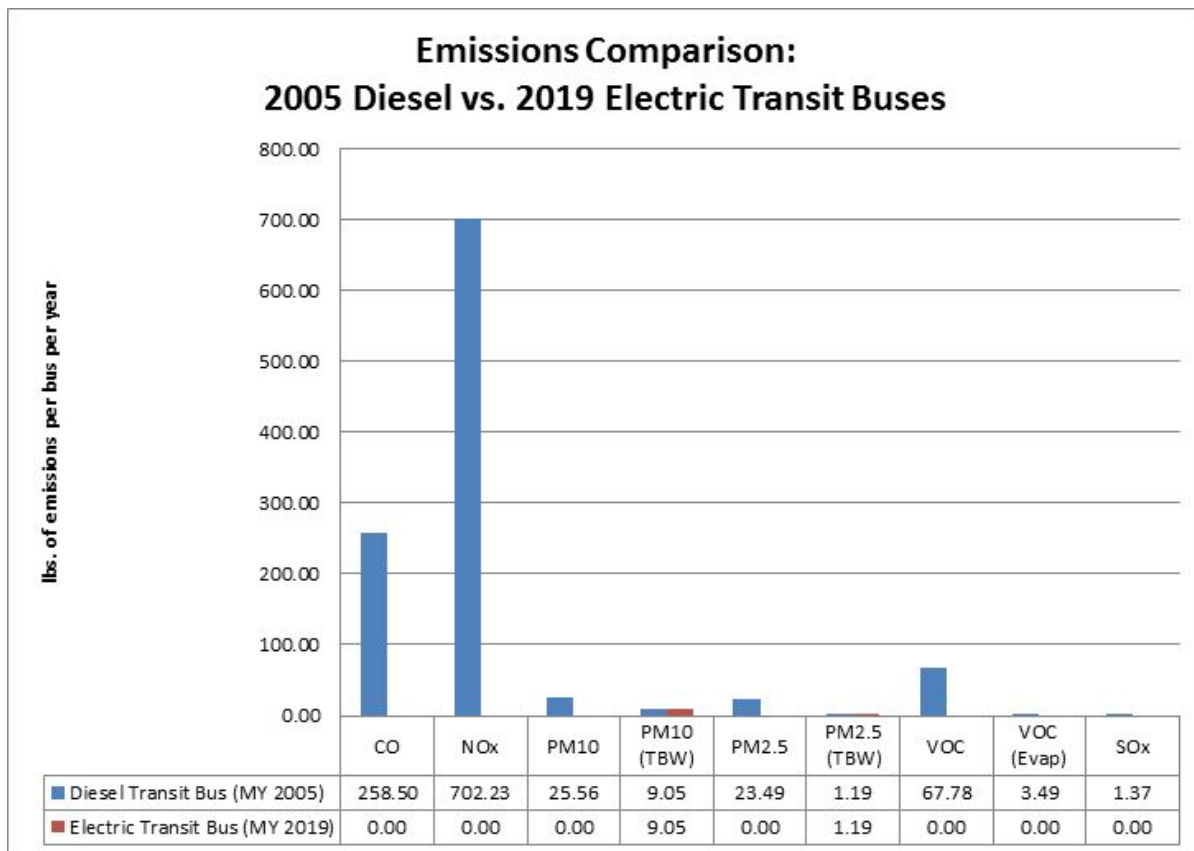
# Idle Reduction Plans

- Wastes up to 0.5 gallons of fuel per hour
- Idling a medium-duty truck wastes 0.4 to 0.6 gallons of fuel per hour
- Uses more than 6 billion gallons of fuel at a cost of more than \$20 billion EACH YEAR in the U.S.
- Increases vehicle maintenance costs
- Can shorten vehicle life





# Emissions Reduction Analysis



# Alternative Fuel Data Center

www.afdc.gov

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

EERE Home | Programs & Offices | Consumer Information

## Alternative Fuels Data Center

Search the AFDC **SEARCH**

FUELS & VEHICLES

CONSERVE FUEL

LOCATE STATIONS

LAWS & INCENTIVES

Maps & Data

Case Studies

Publications

**Tools**

About

Home

EERE » AFDC » Tools » Vehicle Search

Printable Version Share

### Alternative Fuel and Advanced Vehicle Search

Find and compare alternative fuel vehicles (AFVs), engines, and hybrid/conversion systems. Some of the light-duty AFVs in this tool may count toward vehicle-acquisition requirements for [federal fleets](#) and [state and alternative fuel provider fleets](#) regulated by the Energy Policy Act (EPA). Access a list of light-duty [Model Year 2018 Alternative Fuel and Advanced Technology Vehicles](#) or download a [spreadsheet of all vehicles](#).


Search Results - 1 - 8 of 22 vehicles

New Search | Download | Print

Filter by: Fuel/Technology: All | Class/Type: School Bus | Manufacturer: All


View

**Blue Bird All American Rear Engine**  
CNG - Compressed Natural Gas




Maximum Seating: 84  
Power Source(s)  
Cummins Westport L9N 8.9L Near Zero

**Blue Bird All American RE Electric**  
Electric




Maximum Seating: 84  
Power Source(s)  
ADOMANI/Efficient Drivetrains, Inc. 315HP 150kWh

**Blue Bird Micro Bird 5G Electric**  
Electric



Maximum Seating: 30  
Power Source(s)  
ADOMANI/Efficient Drivetrains, Inc. electric

**Blue Bird Micro Bird G5**  
Propane



Maximum Seating: 30  
Power Source(s)  
Ford 6.0L V10

Refine Your Search

Fuel/Technology

+

Class/Type

-

☐ All Classes/Types

☐ Sedan/Wagon

☐ Truck

☐ SUV

☐ Van

☐ Step Van

☐ Vocational/Cab Chassis

☐ Street Sweeper

☐ Refuse

☐ Tractor

☐ Shuttle Bus

☐ Transit Bus

☒ School Bus

Manufacturer - Light-Duty

+

Manufacturer - Med & Heavy-Duty

+

# Innovative Partnerships & Financing

- Local propane companies may be able to provide fueling equipment at no cost
- Leverage state tax credits and grant funding on buses through lease-purchase arrangements
- Public-Private partnerships may allow you to leverage state tax credits for CNG stations which are excluded from VW funding
- Battery lease options are offered by some bus manufacturers to lower the purchase price of electric buses
- Talk with your utility about partnering on CNG or EV charging installations
- Confirm with DEQ that these arrangements are compatible with VW Funds prior to submitting a proposal

# Do your homework!

- Alternative fuels have strengths & weaknesses which make certain types more suitable for different use cases and duty cycles.
- Understand the pros and cons of the fuel you are considering.
- Reach out to your Clean Cities Coordinator for a fuel-neutral fleet analysis that can help you make the right choice for your fleet.



# Contacts



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